optimum SORTING

NOVUS



THE WIDEST AND MOST VERSATILE BELT SORTER ON THE MARKET

Step into the future of sorting with our Novus sorter. The widest optical belt sorter on the market.



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SIX-SIDED CAMERA INSPECTION

Depending on the scanning width and the application, the Novus is standardly equipped with 3, 6 or 9 advanced high-resolution cameras that accurately detect discoloration, size and shape deviations. A unique camera configuration was developed especially for the sorting of diced potatoes and other tuberous vegetables, in which the cameras are arranged in such a way that five of the six sides of each cube are always shown perpendicularly. And there is more: the innovative S-TEC module also inspects the bottom of the product, which is particularly interesting for dry products such as nuts and confectionery.

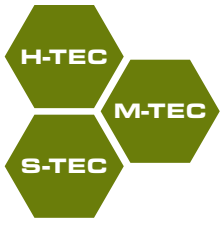
METAL DETECTION

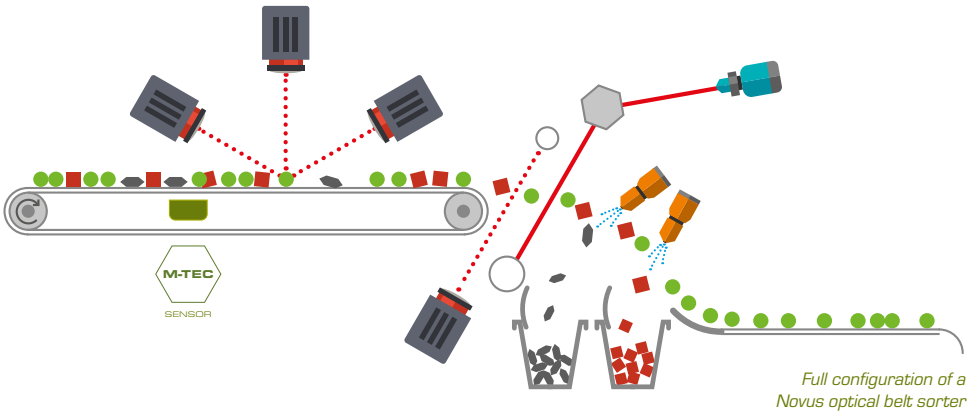
The **M-TEC** module built into the frame detects and removes tiny stainless steel, ferrous and non-ferrous metals particles that the cameras and lasers might possibly not detect because they are hidden under the product on the sorting belt or in the product itself. The module is made up of several smaller detector coils, which means that its detection sensitivity is much more effective than that of traditional metal detectors.

MULTISPECTRAL LASER DETECTION

To further increase its sorting accuracy, the Novus may be equipped with up to 8 lasers (and 16 laser detectors). Thanks to the combination of different lasers with specific wavelengths, it easily detects structure and biological characteristics. Structure sorting is ideally suited for detecting foreign objects, such as wood, plastic, stone, glass and metal. SWIR (Short Wave Infrared) lasers see the difference between aqueous and non-aqueous products, which is also ideal for finding foreign objects between fruit and vegetables. Special fluorescent lasers in turn detect the chlorophyll content of green vegetables or the presence of harmful substances, such as solanine in potatoes and other tuberous vegetables. The right combination of lasers even detects the almost invisible sugar ends on raw French fries.

TECHNOLOGICAL INTEGRATIONS





Full configuration of a Novus optical belt sorter



SORTING SMARTER
WASTING LESS
SHAPING TOMORROW

SUPERIOR RESOLUTION

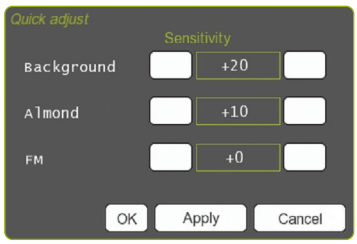
The Novus has an impressive laser scanning speed of up to 3,333 scans per second, resulting in an optical resolution of 0.3 mm (0.012 in), the highest resolution of any laser sorter on the market. It can therefore easily detect the smallest impurities such as thin wood splinters in frozen vegetables, shell fragments in nuts, and even glass splinters.

MULTIDIMENSIONAL IMAGE PROCESSING

The different camera and laser signals are processed simultaneously, so that defects and foreign objects are detected more accurately and the risk of erroneous rejections is reduced. The result: an excellent good-to-bad ratio that leaves other systems behind.

ARTIFICIAL INTELLIGENCE

The Novus is able to differentiate multiple product & defect classes and, if necessary, process them differently. Its advanced sorting software uses AI (artificial intelligence): it learns to identify products & defects on the basis of images of the objects passing through the machine. During the sorting process, the algorithm autonomously decides which products are removed. If your operators still detect errors, they can easily adjust the algorithm by classifying extra object images or via "Quick adjust".



*With **Quick adjust,** adjusting the detection sensitivity is child's play.*

PRECISION EJECTION SYSTEM

Defective products are removed from the flow of good products using compressed air. Using an optional second ejection mechanism, you may also apply three-way sorting in addition to two-way. In order to get an excellent good-to-bad ratio even for the smallest products, the Novus may be equipped with a high-density valve system: ultra-fast and small ejection valves with a center-to-center distance of 5.25 mm (0.21 in).

THE NOVUS IN A NUTSHELL

- Widest optical belt sorter
- Excellent good-to-bad ratio
- Unique three-in-one combination of camera, laser and metal detection
- Sorting on the basis of color, shape, structure and biological and magnetic properties
- Superior resolution
- Advanced sorting software using AI
- Optimal flexibility and integration options
- Perfect hygiene
- Fast product switching
- 24/7 (remote) service

OPTIMAL HYGIENE, FLEXIBILITY AND INTEGRABILITY

The design of the base frame of the Novus meets the strictest hygiene standards and machine guidelines. Moreover, it's modular, so that the Novus cannot only be easily configured according to your needs, but can also be expanded with the same flexibility after installation. And finally, its operating and sorting software uses the CUMULUS platform, just like all our other machines. Designed for easy integration across all your systems.

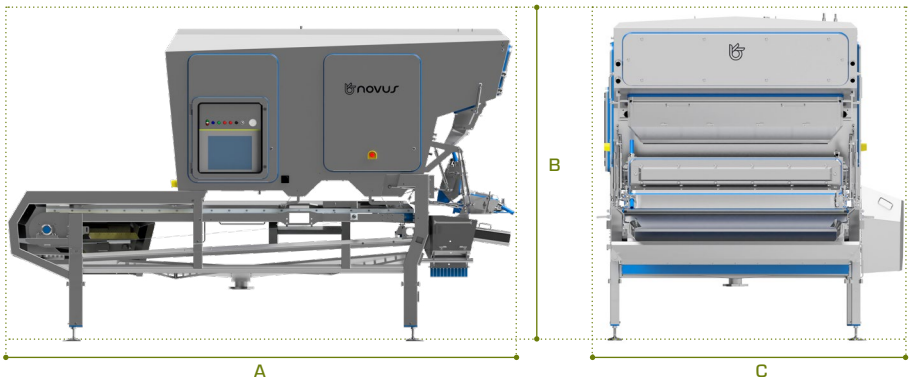




SCAN OR CLICK

INTERESTED IN A FREE DEMO?

Get in touch with the sales team of Optimum Sorting and have your products tested at one of our demo centers around the globe. Experience firsthand the benefits our machines can bring to your business!



mm *inch*	A length	B height	C width
Novus 600	**3300** *130*	**2900** *114*	**1400** *55*
Novus 1200	**4200** *165*	**2900** *114*	2100 *83*
Novus 1800	**4383** *173*	**2900** *114*	**2504** *99*
Novus 2400	**4206** *166*	**3126** *123*	**3016** *119*

The dimensions are indicative.
Detailed drawings are available on request.

■ standard ○ option

		NOVUS			
Type		600	1200	1800	2400
Machine type		Belt sorter			
Inspection width		600 mm *24 in*	1200 mm *47 in*	1800 mm *71 in*	2400 mm *94 in*
Network		Ethernet			
Software (Cumulus)		■	■	■	■
Camera	Monochrome, RGB, iRGB	■	■	■	■
	InGaAs	○	○	○	○
	XIP	○	○	○	○
Laser	IR, SWIR, VIS, Fluo	○	○	○	○
	Class	3R	3R	3R	3R
Metal detection (M-TEC module)		○	○	○	○
Camera configurations	5/6 configuration	○	○	○	○
	Perpendicular	○	○	○	○
	Front/rear-configuration	○	○	○	○
Lighting	Hi frequency fluorescense tubes	■	■	■	■
	LED (white)	○	○	○	○
	LED (UV)	○	○	○	○
	LED (IR)	○	○	○	○
Sorting modus	Two-Way	■	■	■	■
	Three-Way	○	○	○	○
Reject valves	Pitch 5.25 mm • *0.21 in*	114	228	342	○ (456)
	Pitch 7.5 mm • *0.30 in*	80	160	240	320
	Pitch 10 mm • *0.39 in*	60	120	180	240
Reject flippers	Pitch 40 mm • *1.57 in*	○	○	○	○
Noise level		80 - 90 dB(A) using reject air valves			
Electrical supply	Voltage	400 VAC			
	Phases	3P+N + Earth			
	Frequency	50 Hz / 60 Hz			
	Power	4 kW	7.5 kW	8.5 kW	11 kW
Water supply	Quality	Soft water, max 8°dH, Fe < 0.2 mg/l			
	Average consumption	max. 8 L/min *max. 0.28 CFM*	max. 10 L/min *max. 0.35 CFM*	max. 15 L/min *max. 0.53 CFM*	max. 20 L/min *max. 0.71 CFM*
	Temperature	15°C • *59°F*			
	Pressure	1-3 bar • *15-60 PSI*			
	Connection	3/4"	3/4"	3/4"	3/4"
Compressed air	Quality	ISO norm 8573-1:2010			
	Class	1.4.2 Norm			
	Filter	0.1 µ - Dry			
	Air connection	3/4"	1.5"	1.5"	1.5"
	Incomming pressure	4-8 bar • *58-116 PSI*			
	Average consumption	600 L/min *21 CFM*	1200 L/min *42 CFM*	1800 L/min *64 CFM*	2400 L/min *85 CFM*
Frame	Material	Stainless steel 304			
	Protection class	IP65			
	Dimensions	See drawing			
Cooling	Heat exchanger (open circuit)	■	■	■	■
	Chiller (closed circuit)	○	○	○	○
	Split airco unit	○	○	○	○
Infeed shaker	Flatbed	○	○	○	○
	High speed	○	○	○	○
	Laned	○	○	○	○
Reject shaker	Conveyor belt	○	○	○	○
	Shaker	○	○	○	○

More info?

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USA +1 (720) 586 6545
Belgium +32 (0)11 71 80 20
info@optimum-sorting.com
www.optimum-sorting.com